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Design

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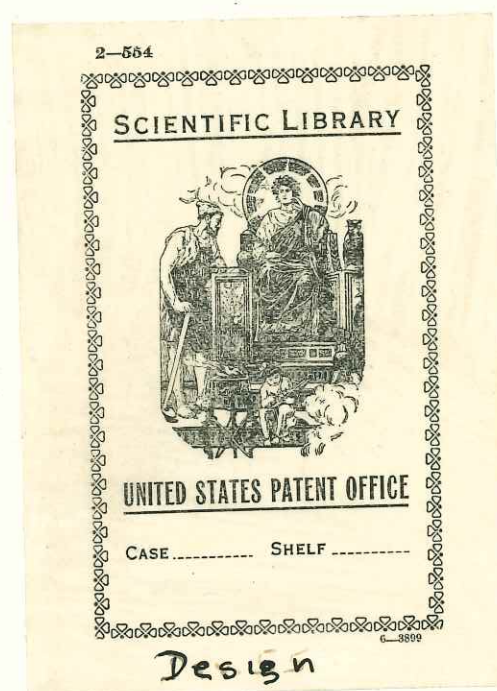
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Lyon & Healy

Band Instruments

Conturier Continuous Conical Bore—



LYON & HEALY Band Instruments

*Continuous Conical Bore
(Couturier Principle)*



Factory: Laporte, Ind.
Offices: Chicago, Ill.



LYON & HEALY

Continuous Conical Bore

Band Instruments

WHEN a player tries a new instrument one of his first tests usually is the comparison of the tone produced by legitimate fingering with that yielded by artificial fingering. The smaller the variation the better the instrument. The result of such a test on a Lyon & Healy instrument is perhaps the most striking evidence of the worth of the Continuous Conical Bore principles. Any player can make this test. For instance, play

LEGITIMATE

Open	G (Above the Staff)
First Valve	F (Fifth Line)
Open	E (Fourth Space)
First Valve	D (Fourth Line)
Second Valve	B (Third Line)
First Valve	B \flat (Third Line)

ARTIFICIAL

1st and 3rd Valves
1st and 3rd Valves
1st, 2nd and 3rd Valves, or 1st and 2nd, or 3rd
1st and 3rd Valves
1st, 2nd and 3rd Valves

and so on down the scale.

On any instrument of cylindrical bore the tones given by these two fingerings will vary, in some cases widely. On Lyon & Healy Instruments with the Couturier Continuous Conical Bore the tones will be found to match more perfectly. It is difficult for the ear to detect the slightest variation in the use of the legitimate fingering or the artificial.

The player of a Lyon & Healy Instrument, therefore, is free to use artificial fingering in every case where it is technically advantageous. But he is not forced to use it where, despite its awkwardness, he feels it necessary to draw a tone up or down to approach a correct pitch.

Certain physical laws have always occasioned difficulty in making horns. To have the air column vibrate properly so as to give overtones in accordance with the harmonic series was of the most vital importance and made much of the difference between a good and a bad horn.

An even tone quality is one of the first requisites of a fine musical instrument. An expert, testing a violin, sometimes plays it for days and weeks. Having determined whether there are any "wolf" tones he turns his attention to the tone quality, comparing closely the tone

LYON & HEALY BAND INSTRUMENTS

yielded in the lower, middle and upper registers. The more nearly uniform the tone color the more valuable the instrument.

The uniformity of tone color throughout all registers of Lyon & Healy brasses makes them worthy of comparison with a fine violin in point of musical perfection. What Boehm, with his revolutionary invention, accomplished for the wood-winds in technic, intonation and tone quality, the Couturier system has duplicated for the brasses. A sound wave, started in the mouthpiece with the slightest vibration of the lips, emerges from the bell a pure tone of unmatched musical beauty.

A wonderful new freedom and a tremendous increase in the available effects are now at the command of all brass players of Lyon & Healy instruments.

Take the Cornet, for instance. Place the mouthpiece to your lips and start a tone, ever so gently:

- Note how easy it is to begin and maintain the tone. This makes possible the lightest pianissimo playing with the utmost delicacy, and enables smooth, even trilling.
- Increase the pressure gradually and note how the volume increases, pure shimmering brilliance that rings out absolutely true to pitch in whatever key or interval.
- Try the C-sharp or D below and note how readily they come and with what fidelity to pitch. (No wolf tones here.)
- When you run up or down the scale or arpeggios notice the even tension—all tones "feel" alike to the lips—and see how smoothly the ascent or descent can be made.
- Notice that the absence of resistance gives you command of an increased register above and below and note the pure, velvety texture, the even color of the tone throughout the register.

The markedly superior qualities of the Lyon & Healy instruments are not claims but facts, backed by an unlimited and unqualified guarantee.

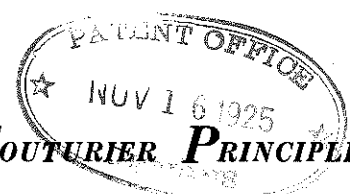
Lyon & Healy Horns as True in Pitch as a Master's Violin

THE principle of Continuous Conical Bore, placing the brasses on a par with the strings in the modern ensemble, has raised the position of the brass player to a new dignity and opened new fields for the soloist and ensemble player alike. New music is being written, taking advantage of this new freedom and the new effects which are now at the command of the brass player.

The fidelity of pitch of the Lyon & Healy Band Instruments is perfect. The scale is true in all keys and intervals, so true that the instruments can be played in unison with the violin. A very important part of this unique feature is the valves.

Four

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)



Valve actions are short, permitting rapid execution and freedom in trilling. The valves themselves are perfect fitting, made of nickel silver and ground to a diamond smooth finish. They are light, delicately balanced, and responsive. To finger them is a delightful treat. You can be sure of clean-cut playing. The springs are durable, highly resilient and insure permanence of tension. Perfect seating makes the valves noiseless, positive in action, vacuum-tight, and reliable.

The valve passages are continuously conical, the only ones so made. They make possible a tone that is as "true to pitch as a master's violin."

One of the most important points in the construction of the Trombone is the fact that both the regular and the symphony bell may be used on the regular slide, in other words the player can have two instruments in one by merely using a symphony bell on his regular slide.

For use in the larger Symphony Orchestra and Grand Opera we can furnish a symphony slide proper. This slide is of larger bore throughout; the opening at mouthpiece end is for a .500 mouthpiece instead of a .425. This slide will satisfy the most exacting player. The connection between bell and slide is the same on all trombones, irrespective of bore. Slides and bells are interchangeable.

These trombones are fully covered by patents.

Many refinements of detail stamp the Lyon & Healy Instruments as unusual in refinement. Only a trial and careful examination can really make them plain. The ease of playing and the beauty of tone are outstanding features. They mean to the musician more than money can measure. Freedom from wolf tones, evenness of scale, ease of blowing—all these are priceless to the artist when playing a difficult solo passage. They await him in the Lyon & Healy Instrument.

Beautiful in design, perfect in proportion and balance are these brasses. The turns of the tubing are as few as possible and are developed compactly to promote easy gripping. Weight, too, is at a minimum.

The water keys are so fitted that they do not affect the tone. They also prevent any trouble from the valves, being placed in the tubing at a low point. The elegance of appearance of the instruments is due to their grace and symmetry and to the beauty of finish. Of the latter there is the following choice:

Finish A—Highly polished brass

Finish B—Heavily silver plated, satin finish, inside of bell burnished

Finish C—Heavily silver plated, satin finish, inside of bell gold plated and burnished

Finish E—Heavily gold plated, satin finish, all points and inside of bell hand burnished. Bell elaborately engraved

De Luxe—Our De Luxe finish applies to artist model horns and saxophones. Heavily gold plated, burnished, bell exquisitely engraved by master engravers in a pattern of great beauty. On saxophones the finger-tips and rollers are of beautiful selected pearl

Five

LYON & HEALY BAND INSTRUMENTS

Included with Every Trumpet and Cornet

WITH each Lyon & Healy Trumpet and Cornet are included two mouthpieces, piston cleaner, mute, tuning bit, box of grease for slides and springs, and a beautiful silk plush lined, keratol covered, center opening case.

To the beginner a Lyon & Healy Band Instrument means faster progress on the road to real artistry and assures an appealing future, whether music be his life work, a part-time source of income, or a pleasurable pastime.

Professionals are finding that these new instruments end all constant search for "something better" and conductors to whom the possibilities of these instruments have been revealed are insisting upon their use because of the wonderful improvement in their ensemble. A constantly increasing number of enthusiastic players offers ample testimony to the beautiful workmanship, rich, even tone, and easy intonation of the *new* Lyon & Healy Band Instruments.

The Lyon & Healy Guarantee

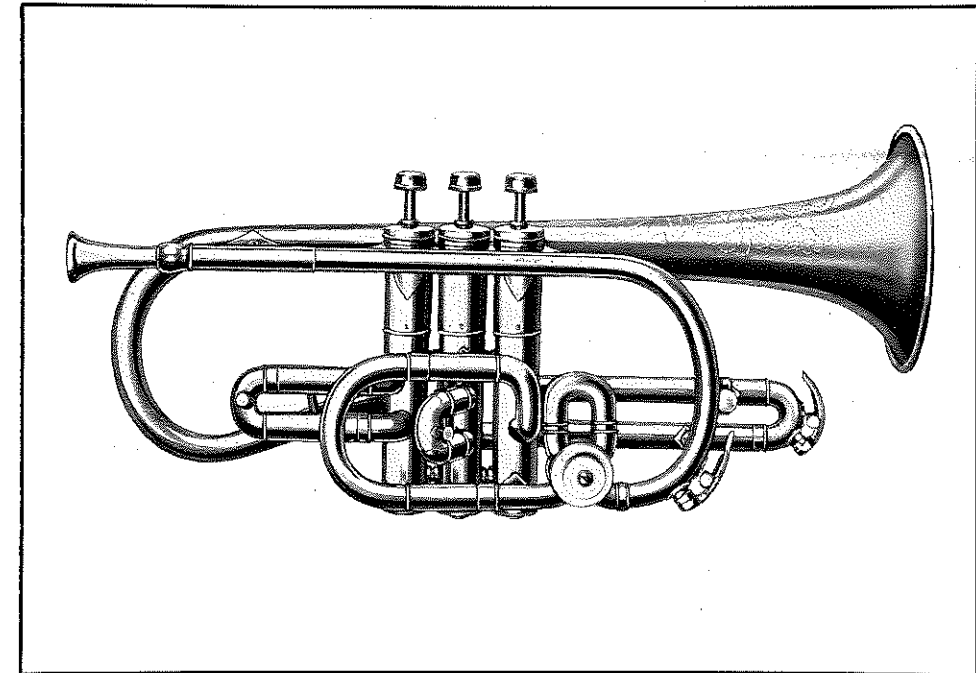
We hereby guarantee:

Each Lyon & Healy Couturier instrument to be without defect in workmanship or material;

That, when played with the mouthpiece provided with the instrument, it will produce every tone and semi-tone throughout its register in correct intonation without favoring by the player;

That the full purchase price paid for the instrument will be refunded upon return of the instrument to us by the original purchaser who is not satisfied with his instrument.

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)



B \flat Cornet (with Rotary Change to A)

A BEAUTIFULLY finished Cornet with a mellow tone, perfect in all registers. This instrument fills the need of band and orchestra players who want a Cornet of tremendous power and volume.

The register is unlimited, depending entirely upon the ability of the player. This cornet is easy to play—that's one of the first features the player notices. That is because of its scientific construction—Continuous Conical Bore from mouthpiece to bell, the easy valve action and quick responsiveness, characteristic of all Couturier instruments.

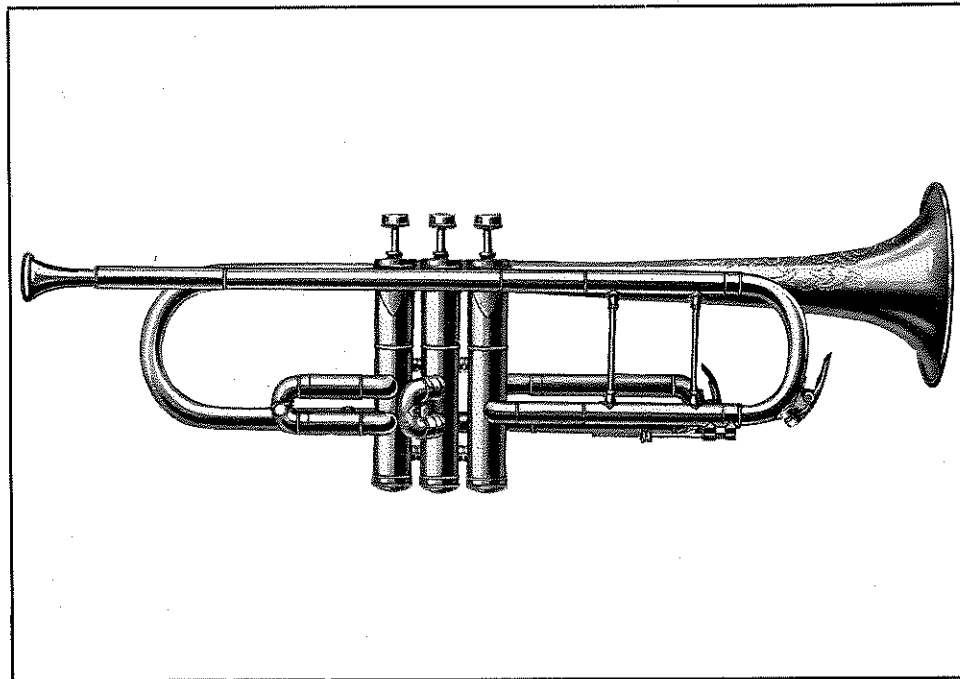
On the Couturier Conical Bore an easy and uniform pressure produces perfect tones throughout the entire register of the instrument.

Length without mouthpiece 14 $\frac{1}{4}$ inches
Diameter of bell 4 $\frac{5}{8}$ inches



EARLY CHINESE
TRUMPET—Authentic history dates the use of Trumpets by the Chinese to 2000 B. C.

LYON & HEALY BAND INSTRUMENTS

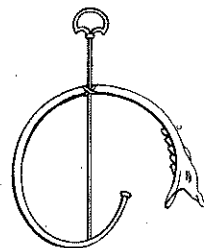


Trumpet in C, B \flat and A

THIS remarkable C-B \flat and A Trumpet will play in perfect tune in all three keys. The patented Conical Bore feature explains it—just as this feature explains the perfect intonation of all Lyon & Healy instruments—the world's only brasses sold with a written guarantee of perfect intonation.

Both amateur and professional trumpeters will appreciate this guaranteed perfect Trumpet. It replaces two and three extra Trumpets and enables the player to play piano and vocal scores without transposing—playing the music exactly as written.

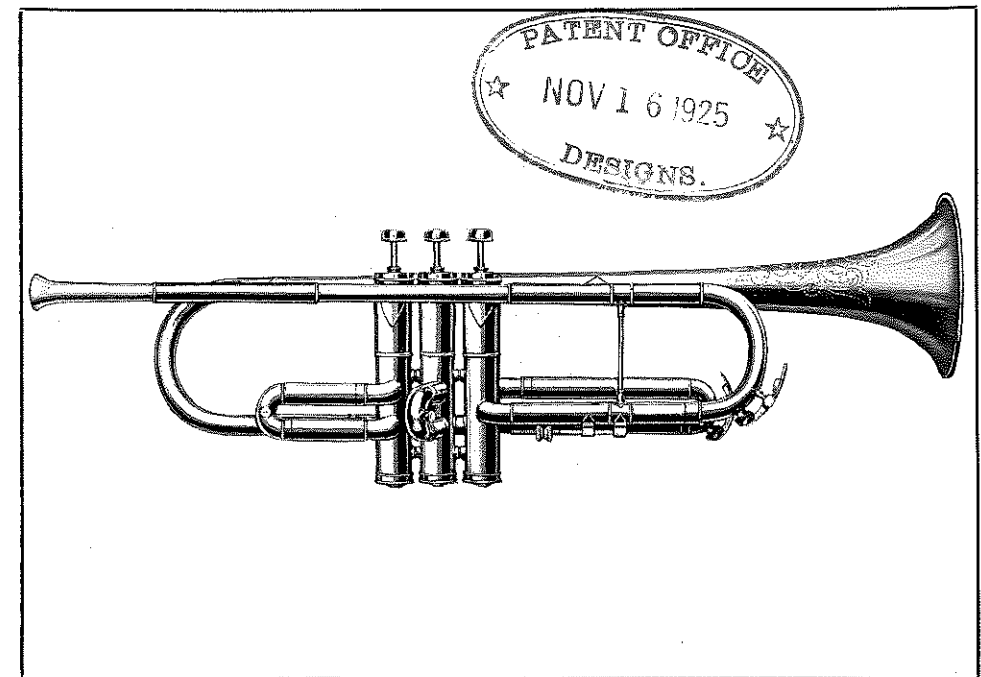
This instrument is built in the key of C. For B \flat two extra tuning bows are available, one with slide change to A, and the other with rotary change to A. An extra set of valve crooks is also furnished for B \flat .



THE CORNU — An early form of Trumpet used by the Roman military forces.

Length without mouthpiece 18½ inches
Diameter of bell 4½ inches

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)

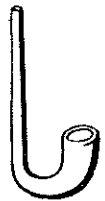


B \flat Trumpet (with Rotary and Slide Change to A)

A BRILLIANT quality of tone makes the Trumpet one of the distinctive voices in any ensemble. The ringing voice of a Lyon & Healy Trumpet pronounces the vital part that a really great Trumpet plays in any band or orchestra. Conical Bore means perfect intonation and ease of playing. With its resonant, flexible tones, a Lyon & Healy Trumpet enriches the ensemble, inspires the player and captivates its hearers.

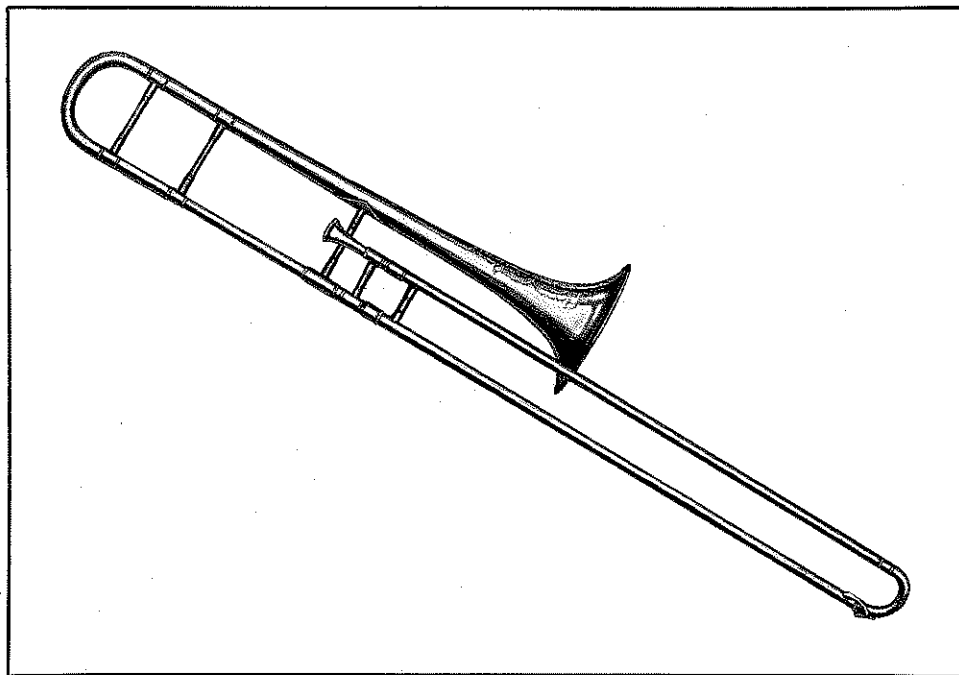
Discriminating players are adopting these Trumpets exclusively. Long search for a perfect instrument invariably leads buyers to them because they are Trumpets that can be played in perfect tune in all registers.

Length without mouthpiece 18 inches
Diameter of bell 4½ inches



THE KEREN — Formed of a ram's horn and used by the Hebrews of Biblical times.

LYON & HEALY BAND INSTRUMENTS



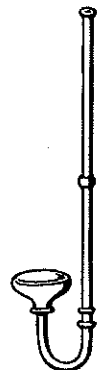
Slide Trombone

OWING to the mechanical difficulties in a full Conical Bore Slide Trombone, surmountable only at the expense of perfect slide action, we have developed a slide that is "three-fourths conical" that is, the upper slide is a perfect taper to which is joined a tapered bow. This bow leads through a cylindrical lower slide into a scientifically tapered bell branch, tuning bow and finally into the bell. Since the true Trombone tone is produced by "holding in" the sound wave throughout the greater part of the horn this cylindrical tube does not affect the intonation very seriously. The open tones (first position) are perfectly in tune and in the other positions the player can always help himself.

The control of the sound wave through the perfect taper of the upper slide (the mouthpiece) and bow gives the player an instrument that is not only far better in tune in all positions than cylindrical Trombones, but is truly remarkable for the ease of playing, responsiveness, and evenness of tone throughout the entire register.

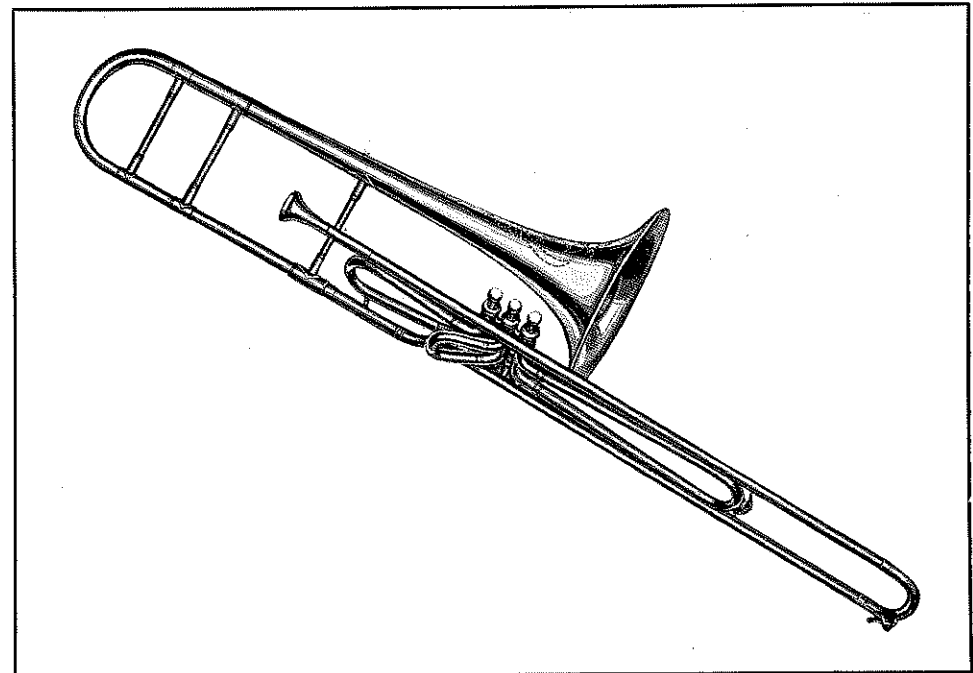
The A₂ in third position and the upper G in fourth position for instance, long "bug bears" on the cylindrical Trombone, come easily and with perfect clarity on this Trombone.

Width of slide..... 3½ inches on center
Width of bell bow..... 4½ inches on center
Size of bell (see page 5)..... 7 inches
Length over all45½ inches



CHINESE TRUMPET—Employed to frighten the evil spirits from casting his shadow over the sun or moon.

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)



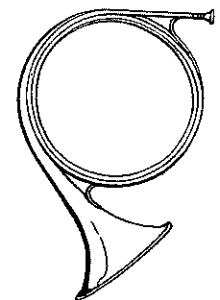
Valve Trombone in B_b

VALVE action is particularly desirable for use, where rapid execution is necessary and where delicate intonation and perfect technic are essential. The Lyon & Healy Valve Trombone possesses the same tonal qualities as the Slide Trombone.

In general band and orchestra work the seven inch bell is recommended while the nine inch or symphony bell should be used by the symphony or grand opera player. Since the connections on slide and valve, seven and nine inch bell, are alike, the player who possesses a slide trombone with a seven inch bell and a valve trombone with a nine inch bell has really four complete instruments. It is a direct mouthpipe instrument. The action is extremely short and light; the Trombone therefore plays easily.

NOTE. The Valve Trombone shown has a symphony (9 inch) bell. For the regular bell (7 inch) see the picture of the Slide Trombone.

Length over all44¾ inches
Diameter of bell....regular 7 inches, symphony 9 inches



HUNTING HORN—Prior to the eighteenth century the Cor de Chasse was a principal instrument in France.

LYON & HEALY BAND INSTRUMENTS



The French Horn in F and E

FOR the French Horn may be justly claimed precedence in brass instruments, but its difficulties have heretofore constituted a serious bar to the progress and ambitions of many instrumentalists. Recognizing the precarious control of tone common to the French Horn and the superiority of piston valves to rotary valves, we offer a Direct Mouthpiece Horn embodying the Continuous Conical Bore principle and piston valve system, having the advantages of positive and quick action, yet with a degree of dip comparable to the lever dip of the old style rotary valve system.

The sound waves enter the valve system of the Lyon & Healy Couturier D. M. French Horn after passing through only eight inches of tapered mouthpiece. This insures immediate response and perfect tone control in all technical operations, thus removing the uncertainty commonly met in French Horns and making the performer complete master of his instrument.

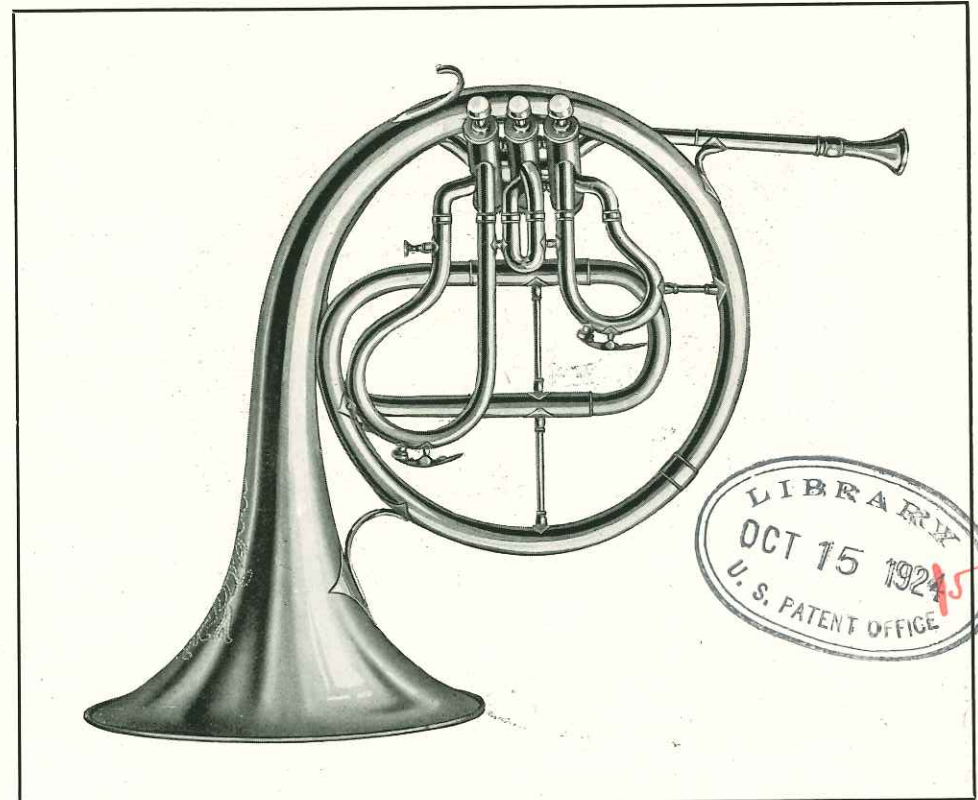
The Lyon & Healy Horn may be had for either the right or left hand.

Length mouthpiece to bell.....26½ inches
Diameter of bell12 inches



THE SHOPHAR—
An ancient Hebrew
Trumpet used for
rallying the tribes.

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)



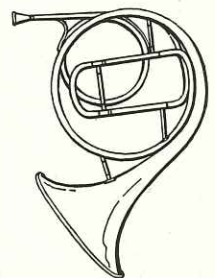
E_b Alt Horn (Circular)

TO inexperienced and experienced musicians alike we want to say, that unless you have heard this instrument you have never heard a real Alto. Almost everyone is familiar with the wolf tones and off-pitch wailings of the Alto section. And no instrument in the band better proves the outstanding superiority of conical bore construction than do the alto instruments.

Every Lyon & Healy Alt Horn is guaranteed to play in perfect tune, without favoring or forcing of tones in any register. This Alt Horn is a direct mouthpiece instrument, that is a mouthpiece of only six inches leads the tone wave into the valve. This permits an especially short and light valve action and gives quick control of tone.

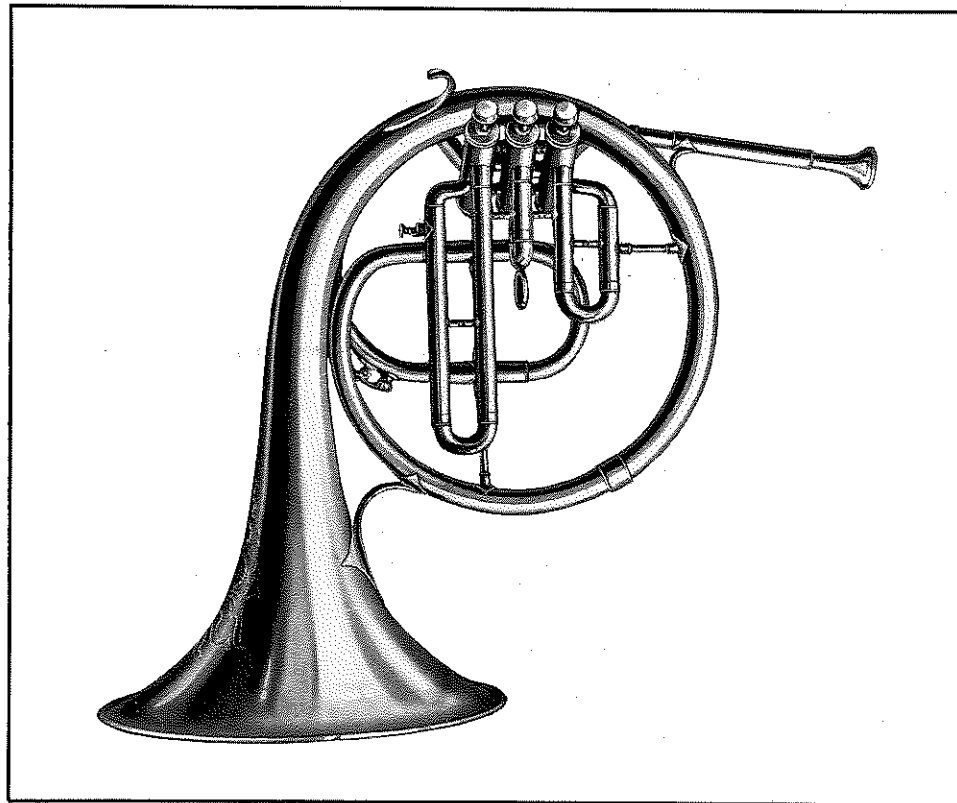
In the Lyon & Healy Alt Horn, conical bore means perfect intonation; lightning valve action means rapid execution and immediate response. For solo work or concert ensemble with either band or orchestra this instrument is without an equal.

Length mouthpiece to bell.....23½ inches
Diameter of bell10 inches



THE HAND HORN
—So called because
by inserting the hand
in the bell notes re-
quired to fill gaps in
the fundamental series
of open tones
could be produced.

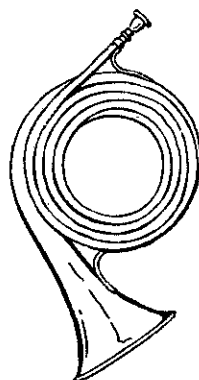
LYON & HEALY BAND INSTRUMENTS



The Mellophone in F, E \flat , D and C

HERE is a welcome addition to any band. The rich sonorous tone and its fidelity to pitch make it superior to any cylindrical bore instrument in the world—bar none. This instrument, possessing a voluminous tone of great carrying power will add character to any ensemble.

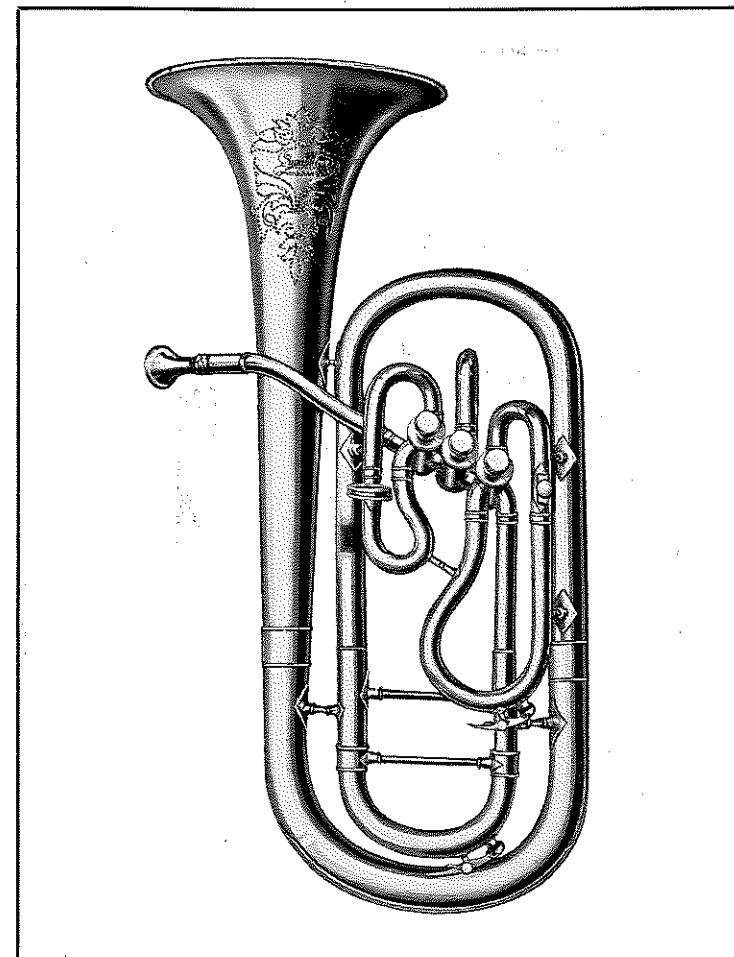
Many bands—wanting strictly fan-fare instrumentation and consequent perfect intonation, have replaced their reed sections with marvelous success by the use of Lyon & Healy Couturier instruments. Short valve action and perfect fidelity to pitch enables the player to play successfully the scores needed in the replacement of clarinet and other wood-winds.



HUNTING HORN—
Modified and refined,
this instrument was
the direct forerunner
of the Hand Horn.

Length—mouthpiece to bell23 inches
Diameter of bell10 inches

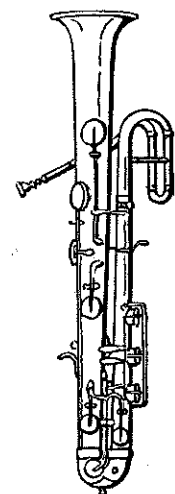
CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)



E \flat Alto Upright

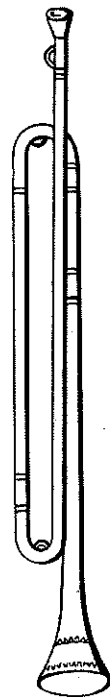
THE Couturier principle of Continuous Conical Bore has emancipated the Alto player. Here is an Alto that plays in tune in all keys and intervals. The tone is round, full and equal through the entire scale. This is due to the mathematical nicety of formation of the tubes and the conformation of the mouthpiece.

Height over all21½ inches
Diameter of bell 8 inches

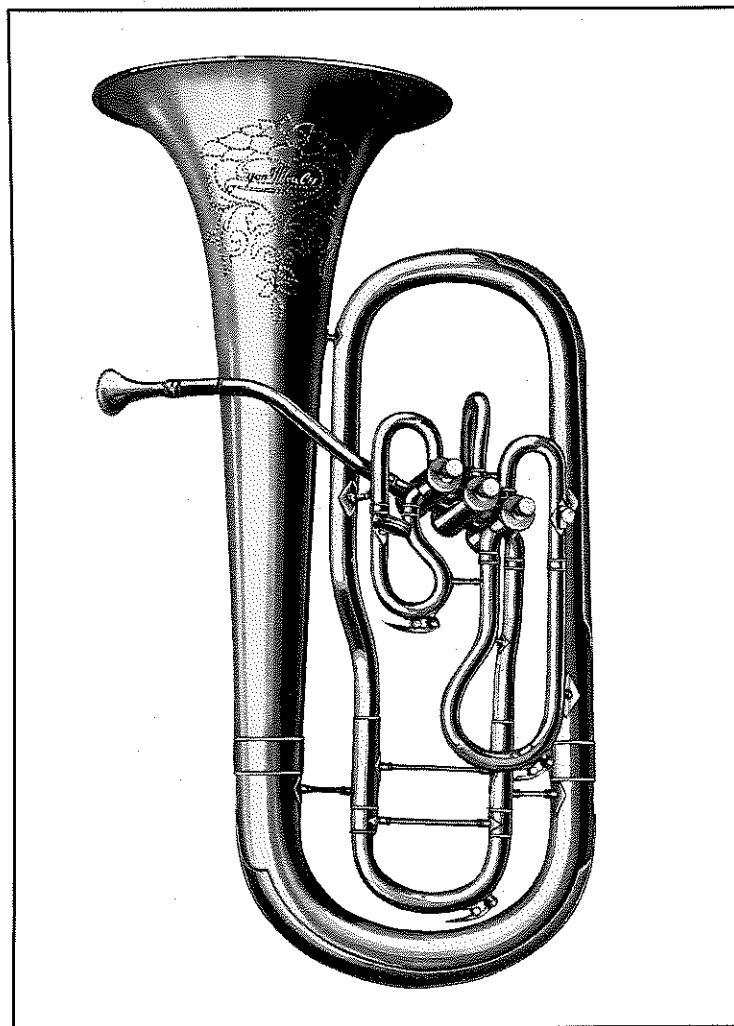


THE OPHICLEIDE
—This instrument,
now obsolete—is sup-
posed to have sug-
gested the saxophone.

LYON & HEALY BAND INSTRUMENTS



ROMAN TRUMPET
—A model in use after
Lucinius; used for
military purposes.



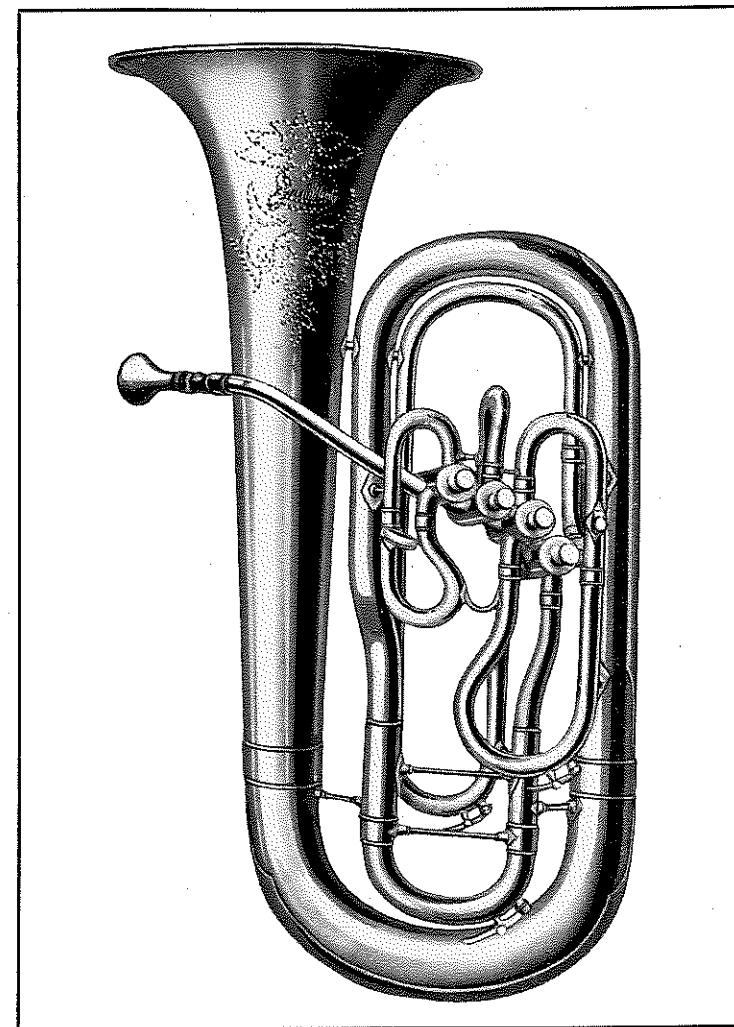
The Baritone in B \flat

HERE is an incomparable three valve Baritone—now so much in demand by players who require a perfect toned instrument, true to pitch from top to bottom of the scale. This Baritone has the mellow richness of the cello. The high tones come as easily and in as perfect tune as the lower. You can depend on this Baritone to give wonderful service in both parade and concert work.

Like all other instruments in the line, its taper is continuous from mouthpiece to bell and the intonation is guaranteed to be absolutely perfect. It is quickly responsive to the slightest lip vibration.

Height over all28 inches
Diameter11 inches

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)

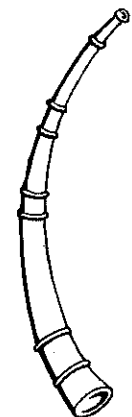


The Euphonium (4 Valve)

BUILT under the Continuous Conical Bore system this Euphonium responds readily and with great power. A little larger in calibre than the Baritone, it possesses a heavier tone of the same rich quality.

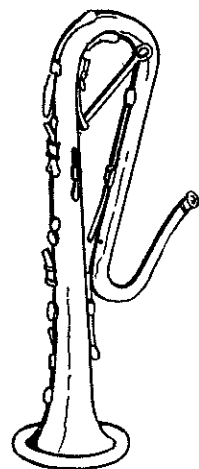
The fourth valve increases the register, adding to the utility of the Euphonium and adapting it particularly to the needs of the large military band. The fourth valve is perfectly in tune with the other three. The very low and very high tones are much easier of attainment than upon instruments of cylindrical bore. It is built with the convenient side action.

Height over all28 inches
Diameter of bell11 inches

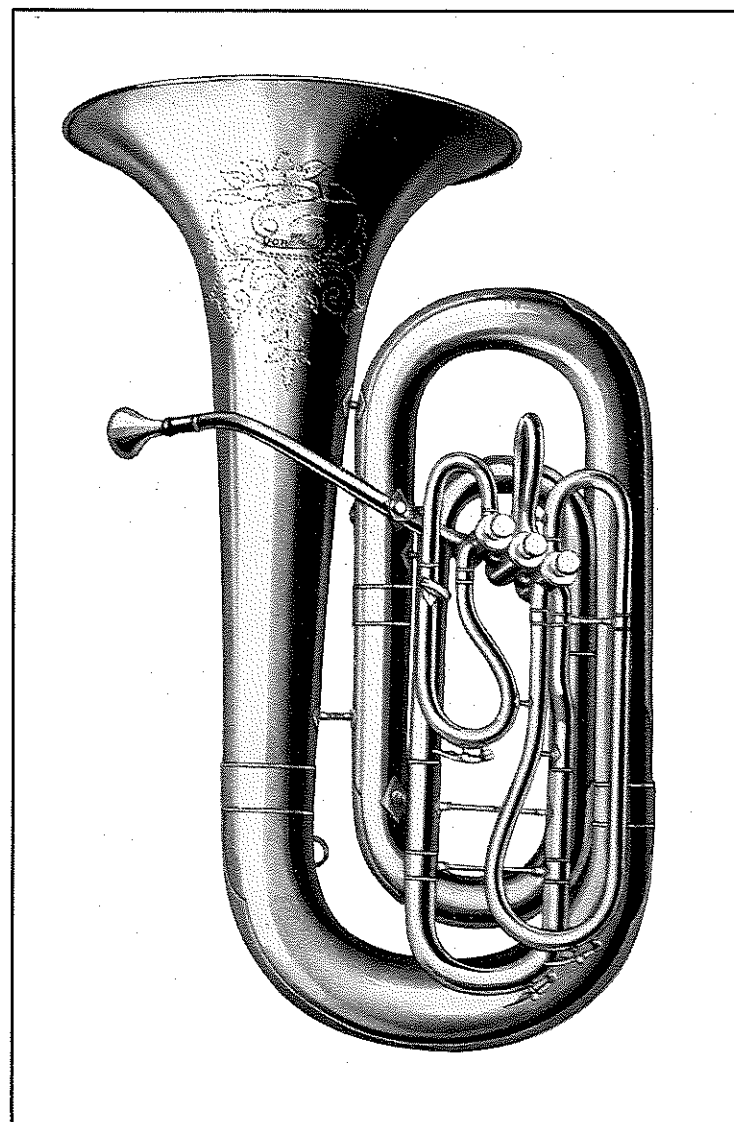


ANGLO-SAXON
TRUMPET—As late
as 1496 trumpets were
made from sticks hol-
lowed out by a hot
iron.

LYON & HEALY BAND INSTRUMENTS



THE BASS BUGLE
—Known also as the Klappenhorn. Used only limitedly in Europe and now long obsolete.

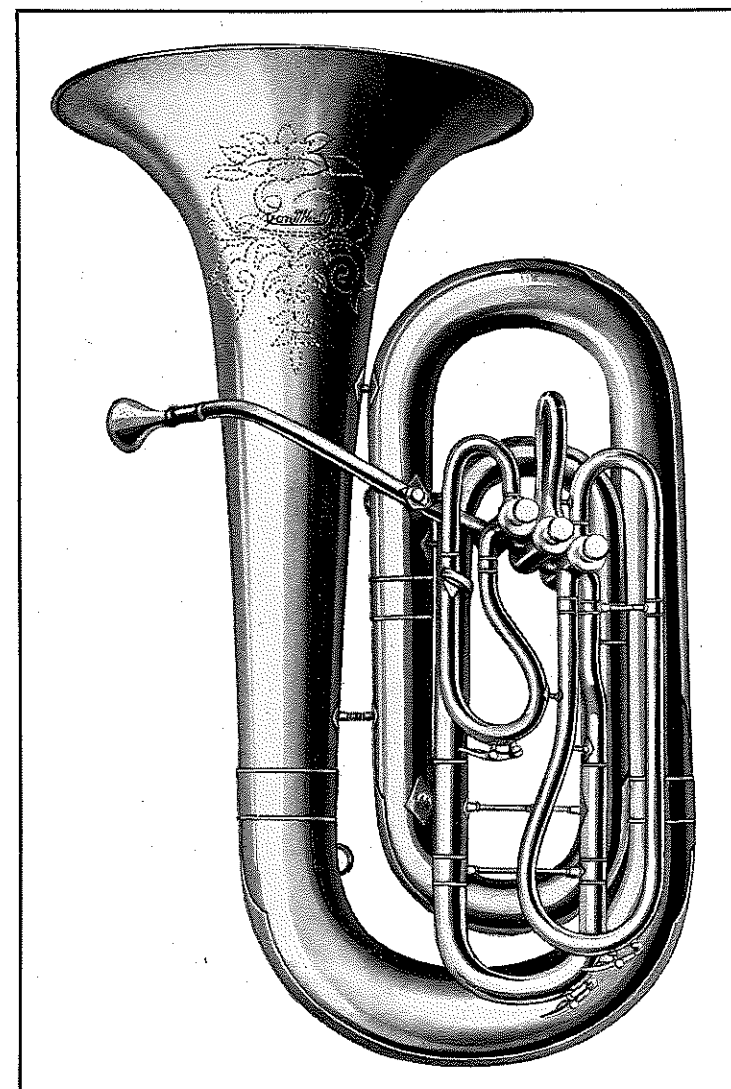


E_b Bass (Medium Upright)

THE LYON & HEALY Medium E_b Bass is characterized by a full, round tone of great volume. Light valve action and ease of blowing are other desirable features of this Bass and the upright model with convenient side action is especially well adapted for parade use. Although the instrument itself is medium-sized, the tone volume is adequate for the purpose of any band.

Height32 inches
Diameter of bell16½ inches

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)



E_b Bass (Giant Upright)

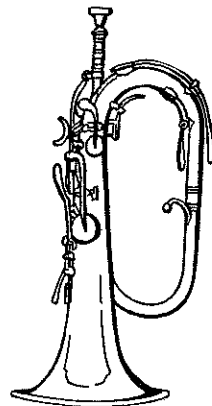
THIS Giant Bass produces the deep voluminous tones of the pipe organ. This is a favorite Bass for concert work. Its volume almost equals the BB Bass. The instrument can also be handled very nicely for parade work. The Conical Bore feature of construction gives the Giant Bass a great playing range, providing perfect intonation in all registers without the use of artificial fingering and eradicating the necessity of forced playing.

Height36 inches
Diameter of bell20½ inches

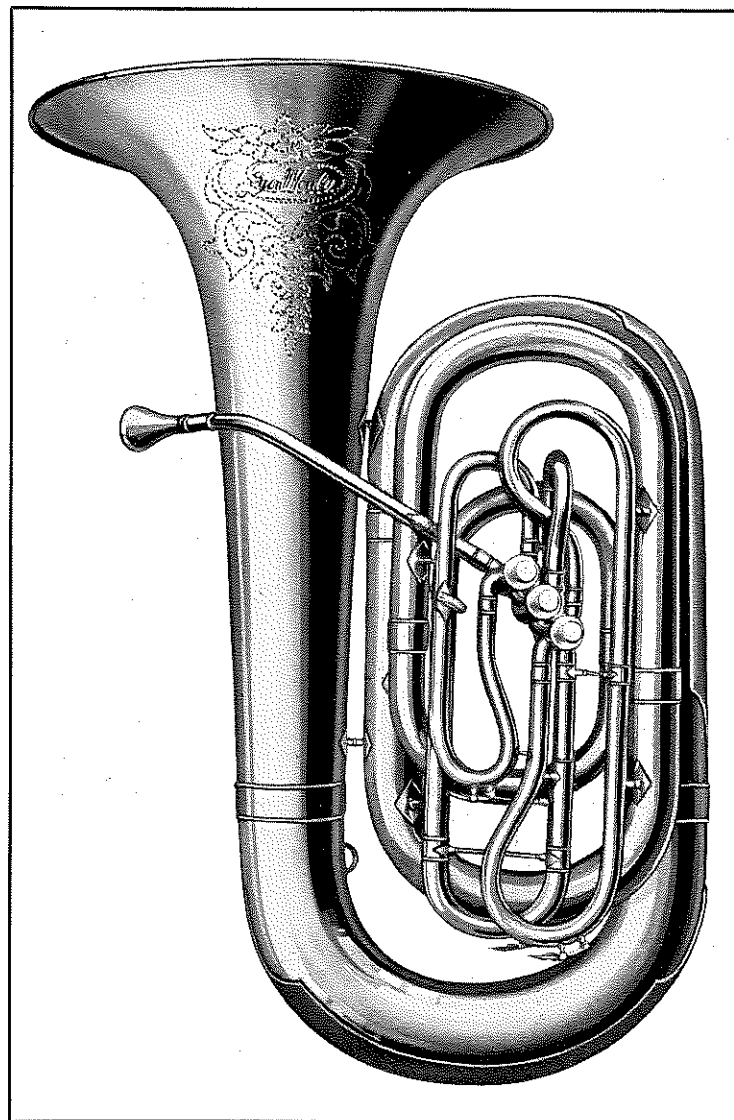


THE CHATZOZERA
—A straight silver trumpet used by the Hebrews chiefly for sacerdotal purposes.

LYON & HEALY BAND INSTRUMENTS



THE KEY BUGLE
—An instrument
made obsolete by the
invention of the saxo-
phone family.

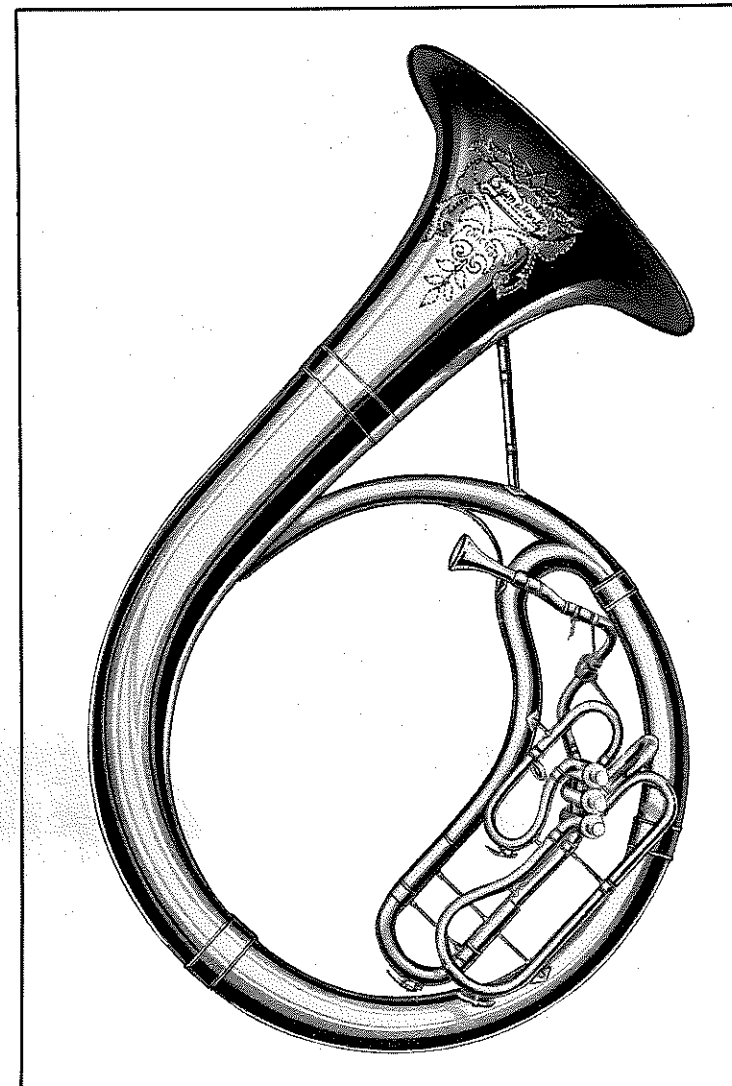


BB \flat Bass (Upright)

FOR parade and concert work this is a popular Bass. Its correct balance makes it easy to carry; its conical construction means perfect intonation; its responsiveness and ease of blowing permit playing long selections without tiring.

Height 37½ inches
Diameter of bell 20 inches

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)

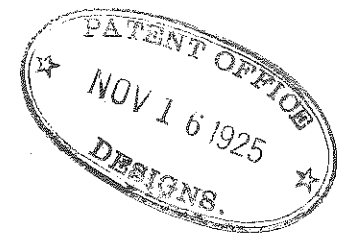


E \flat Bass (Medium Helicon)

A POPULAR sized Helicon, smaller in calibre than the Giant and according to the judgment of some players, a more desirable Bass for parade work. While not possessing the big voice of the giant E \flat , this Helicon provides ample volume for the medium sized band and furnishes more volume than cylindrical Bases of much larger calibre.

A wonderful new freedom and a tremendous increase in the available effects from the Bass sections are now at the command of all Bass players who buy this model.

Height 43 inches
Diameter of bell 16½ inches



TURKISH TRUMPET—Of metal and of very narrow tubing. Its form suggests the modern trombone.

LYON & HEALY BAND INSTRUMENTS



CHINESE TRUMPET—Horns have been associated with events that changed the destinies of nations.



E♭ Bass (Giant Helicon)

THE LYON & HEALY Giant E♭ Helicon was designed for bands desiring a large calibre Bass to use in parade in addition to their regular concert work. This huge Helicon Bass answers the most exacting requirements of the Bass player. For volume and ease of blowing, quick execution and immediate response in all registers this Bass has no equal.

Height44 inches
Diameter of bell21 inches

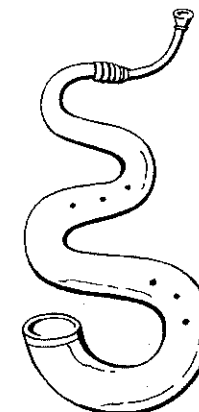
CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)



BB♭ Bass (Medium Helicon)

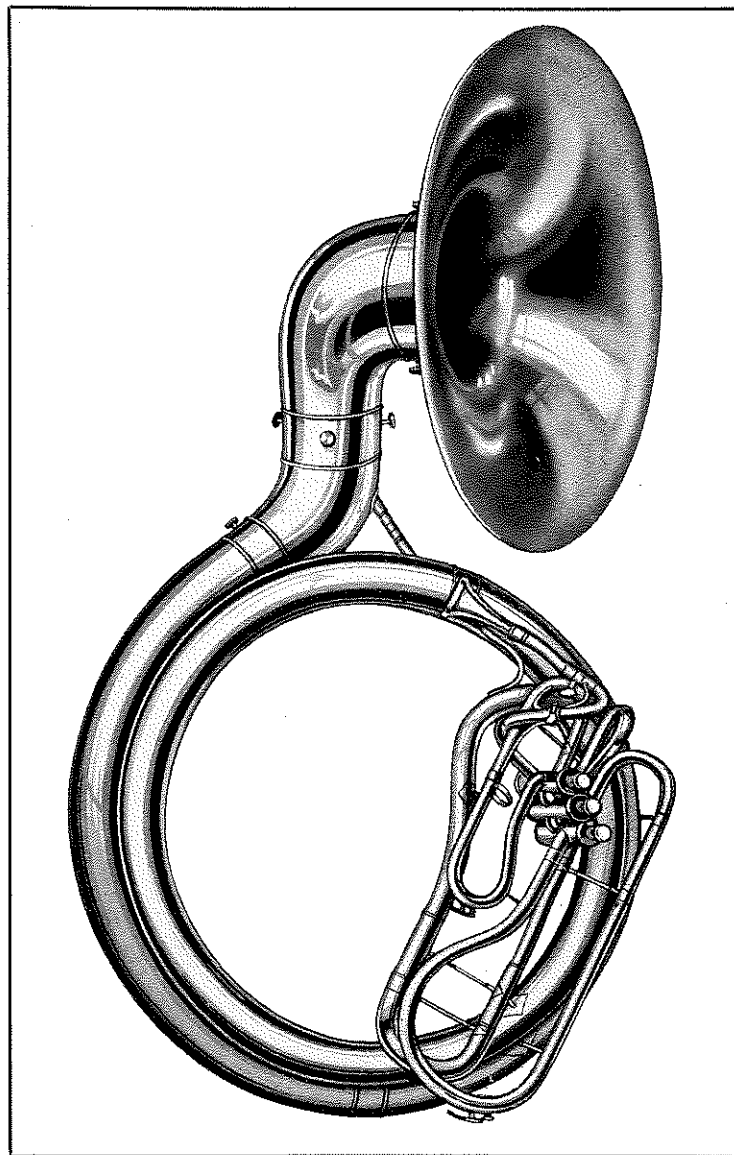
THIS Bass will fill the most urgent requirements of the Helicon player. Large enough for any band and with the added playing facilities afforded by the Conical Bore construction, this Helicon for tone volume is equal to the largest Helicon of cylindrical bore type.

Height43 inches
Diameter of bell20 inches



THE SERPENT—An early English horn which for convenience in playing was "folded" in the manner shown.

LYON & HEALY BAND INSTRUMENTS



BBb Bass Helicon
Bell Front

THE popularity of this bell front Helicon is not surprising when one considers its imposing rich appearance and the distinctive, clear richness of tone. It is perfectly balanced and quickly responsive to the slightest lip vibration. The intonation is guaranteed perfect and the Bass is very easy to blow.

Diameter of bell.....28 inches

MEDIUM Eb HELICON — Bell Front

This popular instrument is also made in the Lyon & Healy-Couturier Line.

CONTINUOUS CONICAL BORE (COUTURIER PRINCIPLE)

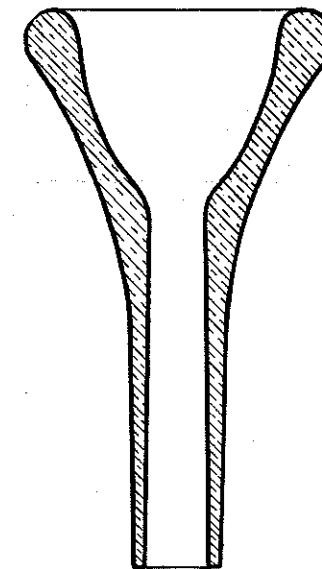
Couturier Model Mouthpieces

TO secure the complete effect of the Continuous Conical Bore Principle, the mouthpiece must introduce the sound waves into the instrument in the proper manner. This is very important because if they are distorted at the very beginning by a wrongly designed mouthpiece, correct results cannot be expected.

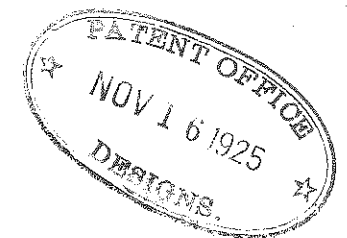
Lyon & Healy-Couturier Mouthpieces represent the same scientific perfection attained by the instruments. Great care has been exercised in establishing correct diameters of bore and depth, as well as contour of cup, for each kind of instrument to which the mouthpiece is applied, to prevent distortion of the sound wave. The design of Lyon & Healy-Couturier mouthpieces is patented.

It is essential that the Couturier mouthpiece be used with every Lyon & Healy-Couturier band instrument. If you lose your mouthpiece be sure it is replaced with another of the same kind.

*Cross-Sectional
Drawing of
Trombone Mouthpiece*

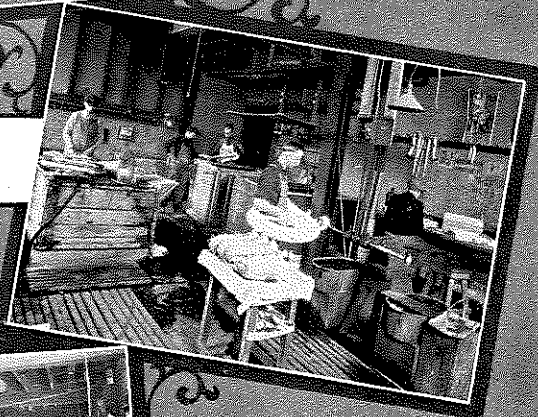


Showing the scientific design of the cup and stem. The sound waves enter the instrument undistorted in any way.

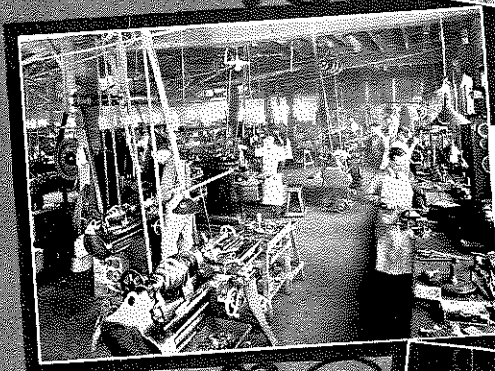




SAXOPHONE DIVISION



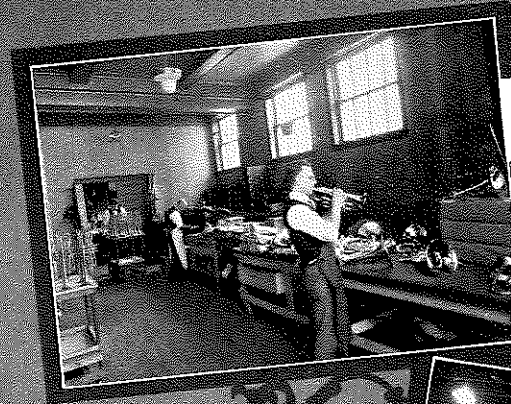
PLATING DIVISION



TOOL DIVISION



ASSEMBLING DIVISION



TESTING ROOM



BELL MAKING DIVISION



MOUNTING DIVISION



LYON & HEALY
FACTORY
Laporte, Ind.

